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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,316	06/22/2001	Thomas R. Volpert JR.	5402/55434	9555

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EXAMINER	
HENNING, MATTHEW T	
ART UNIT	**PAPER NUMBER**
2131	

DATE MAILED: 09/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/888,316	VOLPERT, THOMAS R.	
	Examiner	Art Unit	
	Matthew T Henning	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

This action is in response to the communication filed on 06/22/2004.

DETAILED ACTION

1. Claims 1-23 have been examined.

Title

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "System and Method for Data Encryption Involving Variable Length Coding, Variable Block Sizes, and a VLC Table Selection".

Priority

3. No claim for priority has been made for this application.

4. The effective filing date for the subject matter defined in the pending claims in this application is 06/22/2001.

Information Disclosure Statement

5. No IDS has been submitted for this application.

Drawings

6. The drawings filed on 06/22/2001 are acceptable for examination proceedings.

Claim Objections

7. Claim 18 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the

claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 18 depends on claim 11, which already generates the control code based on a control code index, and therefore claim 18 fails to further limit claim 11.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "the plurality of block codes" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless –*
>
> *(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

11. Claims 1-5, 8-10, 11-13, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cellier et al (US Patent Number 5,884,269) hereinafter referred to as Cellier.

12. Claim 1 recites a method for encrypting an input data string comprising a plurality of bits of binary data, the method comprising: (a) generating a control code in response to the input data string (See Cellier Fig. 1 Element 103 and Col. 4 Paragraph 4 and Col. 13 Paragraph 4); (b) generating a position code in response to the control code (See Cellier Fig. 1 Element 106 and Col. 4 Paragraph 4 – Col. 5 Paragraph 1); and (c) combining the control code and the position code to form an encrypted data string (See Cellier Fig. 7 Table Select and Elements 707.1-707.N); wherein the control code indicates the order in which 2n different configurations of n bits are identified in the position code (See Cellier Col. 2 Paragraph 3 and Col. 4 Paragraph 4) and the position code indicates the position of the 2n different configurations of n bits with respect to the input data string (See Cellier Col. 4 Paragraph 4 – Col. 5 Paragraph 1).

13. Claim 2 recites that step (a) comprises generating a control code in response to a control code index (See Cellier Fig. 1 Element 104 and Col. 4 Paragraph 4).

14. Claim 3 recites that step (a) comprises generating a control code in response to a predetermined default control code (See Cellier Col. 4 Paragraph 4 Lines 4-8).

15. Claim 4 recites that step (b) comprises: identifying and recording the position of the 2n different configurations of n bits in an order determined in response to the control code (See Cellier Col. 4 Paragraph 4 – Col. 5 Paragraph 1).

16. Claim 5 recites dividing the input data string into a plurality of blocks of data comprising a number of bits of data prior to step (a) (See Cellier Fig. 1 Element 101 and Detailed Description Paragraph 1).

17. Claim 8 recites generating a plurality of block codes indicating the number of bits within each block of data (See Cellier Fig. 7 Block Length and Col. 12 Paragraph 3).

18. Claim 9 recites combining the plurality of block codes with the control code and the position code (See Cellier Fig. 7 Block Length and Col. 12 Paragraph 3).

19. Claim 10 recites analyzing one of said plurality of blocks of data by determining the relative frequencies of combinations of said bits of data to generate said control code (See Cellier Col. 7 Paragraph 6 – Col. 8 Paragraph 2), analyzing said one of said plurality of blocks by determining whether a specific relationship exists between the combinations of said bits of data to predict whether said input data string can be compressed simultaneously as it is encrypted (See Cellier Col. 12 Paragraph 5 – Col. 13 Paragraph 1), and identifying the position of the combinations of said bits of data by determining whether each of the combinations of said bits of data matches successive groups of said bits of data (See Cellier Col. 4 Paragraph 5 – Col. 5 Paragraph 1).

20. Claim 11 is rejected for the same reasons as claim 1-2 above (See Fig. 1).

21. Claim 12 is rejected for the same reasons as claim 5 above.

22. Claim 13 is rejected for the same reasons as claim 8 above.

23. Claims 16, 17, and 20 are rejected for the same reasons as claim 10 above.

24. Claim 18 is rejected for the same reasons as claim 11 above.

25. Claim 19 is rejected for the same reasons as claim 3 above.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

27. Claims 6-7, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cellier as applied to claims 5 and 12 above, and further in view of Shimizu et al. (US Patent Number 6,772,343) hereinafter referred to as Shimizu.

Cellier disclosed blocking the input data into block sizes of a certain range (See Cellier Fig. 1 Element 101 and Detailed Description Paragraph 1) but failed to disclose determining the size of the blocks randomly or mathematically.

Shimizu teaches that in a block encoding system, generating the block size randomly makes illicit access of the data more difficult and makes the cryptosystem more robust (See Shimizu Col. 5 Lines 9-18). Shimizu further teaches that the random lengths are generated mathematically using a seed (See Shimizu Col. 15 Paragraphs 3-7).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Shimizu in the invention of Cellier to mathematically generate random block lengths. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide the added security of random block lengths to the encoded audio.

28. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cellier, and further in view of Schneier ("Applied Cryptography").

Cellier disclosed analyzing input data blocks, generating a control code based on a control code index, and generating a position code, in response to the control code, identifying the position of each n bit configuration in the data string, and combining the control code and the position code to form an encrypted data string; wherein the control code indicates the order in which 2n different configurations of n bits are identified in the position code and the position code indicates the position of the 2n different configurations of n bits with respect to the input data string (See rejection of claims 1-2 and 4 above), but Cellier failed to disclose that the method for doing so was implemented as a computer readable medium.

Schneier teaches that any encoding algorithm can be implemented in software, with advantages in flexibility, portability, ease of use, and ease of upgrade (See Schneier Page 225 Paragraph 7). Schneier further teaches that software encoding programs are popular and available for all operating systems (See Schneier Page 225 Paragraph 8).

It would have been obvious to the ordinary person skilled in the art to employ the teachings of Schneier to the compression encoding method of Cellier in order to provide a software program to compress audio data. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide a compression method that was flexible, portable, easy to use and easy to upgrade.

Conclusion

29. Claims 1-23 have been rejected.

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Mayers et al. (US Patent Number 5,532,694) disclosed a data compression apparatus using Huffman encoding in which the generated Huffman table is prepended to the compressed encoded data.

31. Please direct all inquiries concerning this communication to Matthew Henning whose telephone number is (703) 305-0713 until October 21st and (571)272-3790 thereafter. The examiner can normally be reached Monday-Friday from 9am to 4pm, EST.

If attempts to reach examiner by telephone are unsuccessful, the examiner's acting supervisor, Ayaz Sheikh, can be reached at (703) 305-9648 until October 21st and (571)272-3795 thereafter. The fax phone number for this group is (703) 305-3718.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Matthew Henning
Assistant Examiner
Art Unit 2131

AYAZ SHEIKH
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